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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/700,339 | 11/03/2003 | Thomas A. Chodacki | 57119 (72011) | 5244 |

7590 03/13/2006

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| EXAMINER | |
|---|---|
| PRICE, CARL D | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3749 | |

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/700,339 | CHODACKI ET AL. | |
| | Examiner | Art Unit | |
| | CARL D. PRICE | 3749 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12/21/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6,8-13,16-18 and 21-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-13,16-18 and 21-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments with respect to claims **1-6, 8-13, 16-18** and **21-31** have been considered but are moot in view of the new ground(s) of rejection.

Applicant has amended the claims to be of a scope not previously considered. Consistent with applicant's argument that the prior art relied on in the previous office action fail to show, disclose and/or teach certain aspects of applicant's invention now recited in the claims filed on **12/21/2005,** applicant has amended the claims each of the independent claims 1, 6 and 8 to include the following:

> - The electric resistance igniter can be re-heated so as to re-ignite the gas within a re-ignition time period **of about 6 second or less.**

Regarding the prior art reference of **US003589846 (Place)** applicant argues "For example, independent claims 1, 6 and 8 recite that the electric resistance igniter is controlled so as to maintain the electric resistance igniter at an operational temperature that is less than the gas ignition temperature but above room temperature and so the electric resistance igniter can be re-heated so as to re-ignite the gas within a re-ignition time period of about 6 second or less.

The newly cited prior art references of **US005660043 (Pfefferle et al)** is now relied on to reject applicant's invention now set forth in the amended claims. In this regard applicant's attention is directed to the following disclosure of **US005660043 (Pfefferle et al)** which states:

> "...During starting of a gas turbine engine, typically the element 30 is heated to a temperature above the minimum temperature required for ignition at the given air flow condition prior to introduction of fuel thus assuring a rapid light-off. **After light-off**, electrical power to the element 30 may be controlled to maintain **the element 30 temperature below a safe value for the materials used.** Typically, electrical heating is discontinued after light-off **though continued controlled heating** may be utilized **to provide near instantaneous relight** in those situations where aircraft operation, for example, could result in engine flame-out such as by ingestion of water into the engine. Although this invention has been described in terms of an air blast fuel injection, gas turbine fuel nozzles such as pressure atomizers or high shear nozzles can be utilized in the present invention to atomize the fuel." **(column 4, lines 15-30)**

Regarding newly presented claims **24-31**, contrary to applicant's remarks **US003589846 (Place)** discloses controlling operation of the igniter so the igniter is at a temperature less than the ignition temperature but above room temperature and within $600^0$ C of the gas ignition temperature. See below.

## *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

## *Claims 1, 16 : Rejected under 35 U.S.C. 102(b)*

Claims **1** and **16** are rejected under 35 U.S.C. 102(b) as being anticipated by **US005660043 (Pfefferle et al).**

**US005660043 (Pfefferle et al)** is shows and discloses gas control system that:

- controls energizing an ceramic electric resistance igniter (30) from a power source (not shown);
- a switching mechanism (not shown) connected between the electric resistance igniter and the power;
- wherein the control device controls operation of the electric resistance igniter **(column 4, lines 15-30)** so as to warm-up the electric resistance igniter to a temperature at or above an ignition temperature for a gas being combusted; and
- wherein following successful ignition of the gas, operation of the electric resistance igniter is controlled so the electric resistance igniter is at a temperature less than the gas ignition temperature so the electric resistance igniter can be re-heated so as to re-ignite the gas within a desired re-ignition time period. **(column 4, lines 15-30)**

## Claims 24 – 26, 29-31: Rejected *under 35 U.S.C. 102(b)*

Claims **24 – 26** and **29-31** are rejected under 35 U.S.C. 102(b) as being anticipated by **US003589846 (Place)**.

**US003589846 (Place)** shows and discloses gas control system that:

- controls energizing an ceramic electric resistance ~~i~~gniter (23) from a power source;
- a switching mechanism (42,52) connected between the electric resistance igniter and the power (L1, l2);
- the electric resistance igniter responsive to an input signal from door and timer switches (42, 49);

- wherein the control device controls operation of the electric resistance igniter (23) so as to warm-up the electric resistance igniter to a temperature at or above an ignition temperature for a gas being combusted; and
- wherein following successful ignition of the gas, operation of the electric resistance igniter is controlled so the electric resistance igniter is at a temperature less than the gas ignition temperature so the electric resistance igniter can be re-heated so as to re-ignite the gas within a desired re-ignition time period. In this regard **US003589846 (Place)** discloses **(see column 5, lines 28-34)**.

> "... The igniter can cause ignition when its temperature is above **1,400$^0$ F. to 1,600$^0$ F.**" **(column 4, lines 62-69)**
>
> "If ignition occurs properly, sufficient heat is radiated by the flame and the igniter 23 to hold the switch 58 open. In the illustrate embodiment, the **igniter drops to about 1000$^0$ F,** when equilibrium is reached after ignition occurs. **This temperature is maintained in the igniter** by the presence of the flame **and the low voltage applied to the igniter.**"

In regard to claims **24 – 26** and **29-31, US003589846 (Place)** discloses a controlling operation of the igniter so the igniter is at a temperature less than the ignition temperature but above room temperature and within 600$^0$ C of the gas ignition temperature. The ignition of the fuel in **US003589846 (Place)** occurring at "**above 1,400$^0$ F. to 1,600$^0$ F.**" **(760$^0$ C to 871$^0$ C)** and the temperature at which igniter is maintained after ignition occurs being a temperature of "**about 1000$^0$ F**" **(538$^0$ C ).**

## *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

## *Claims 1-6, 8-13, 16-18 and 21-31: Rejected under 35 U.S.C. 103(a)*

Claims **1-6, 8-13, 16-18** and **21-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **US003589846 (Place)** in view of **EP000385910B1** and **US005660043 (Pfefferle et al)**.

**US003589846 (Place)** shows and discloses gas control system that:

- controls energizing an ceramic electric resistance igniter (23) from a power source;
- a switching mechanism (42,52) connected between the electric resistance igniter and the power (L1, l2);
- the electric resistance igniter responsive to an input signal from door and timer switches (42, 49);
- wherein the control device controls operation of the electric resistance igniter (23) so as to warm-up the electric resistance igniter to a temperature at or above an ignition temperature for a gas being combusted; and
- wherein following successful ignition of the gas, operation of the electric resistance igniter is controlled so the electric resistance igniter is at a temperature less than the gas ignition temperature so the electric resistance igniter can be re-heated so as to re-ignite the gas within a desired re-ignition

time period. In this regard **US003589846 (Place)** discloses **(see column 5, lines 28-34)**.

> "... The igniter can cause ignition when its temperature is above **1,400$^0$ F. to 1,600$^0$ F.**" **(column 4, lines 62-69)**
>
> "If ignition occurs properly, sufficient heat is radiated by the flame and the igniter 23 to hold the switch 58 open. In the illustrate embodiment, the **igniter drops to about 1000$^0$ F,** when equilibrium is reached after ignition occurs. **This temperature is maintained in the igniter** by the presence of the flame **and the low voltage applied to the igniter.**"

**US003589846 (Place)** discloses a controlling operation of the igniter so the igniter is at a temperature less than the ignition temperature but above room temperature and within 600$^0$ C of the gas ignition temperature. The ignition of the fuel in **US003589846 (Place)** occurring at "**above 1,400$^0$ F. to 1,600$^0$ F.**" **(760$^0$ C to 871$^0$ C)** and the temperature at which igniter is maintained after ignition occurs being a temperature of "**about 1000$^0$ F**" **(538$^0$ C ).**

**US003589846 (Place)** shows and discloses the invention substantially as set forth in the claims with possible exception to the control device including:

- a micro-controller and an applications program for execution in the micro-controller including instructions and criteria for outputting control signals to the switching mechanism to selectively control voltage and current being applied to the electric resistance igniter; and
- the desired re-ignition time period is about six seconds or less.

**US005660043 (Pfefferle et al)** is shows and discloses gas control system that:

- controls energizing an ceramic electric resistance igniter (30) from a power source (not shown);
- a switching mechanism (not shown) connected between the electric resistance igniter and the power;
- wherein the control device controls operation of the electric resistance igniter **(column 4, lines 15-30)** so as to warm-up the electric resistance igniter to a temperature at or above an ignition temperature for a gas being combusted; and
- wherein following successful ignition of the gas, operation of the electric resistance igniter is controlled so the electric resistance igniter is at a temperature less than the gas ignition temperature so the electric resistance igniter can be re-heated so as to re-ignite the gas within a desired re-ignition time period. **(column 4, lines 15-30)**

**EP000385910B1** teaches, from the same appliance control field of endeavor as **US003589846 (Place)**, using a micro-controller (M1) and an applications program for execution in the micro-controller including instructions and criteria for outputting control signals to a switching mechanism to selectively control voltage and current being applied to an electric resistance igniter.

In regard to claims **1-6, 8-13, 16-18** and **21-31**, for the purpose of providing a suitable means for selectively controlling, operating and monitoring the electric resistance igniter of **US003589846 (Place),** it would have been obvious to a person having ordinary skill in the art to modify the controller of **US003589846 (Place)** to include a micro-controller and an applications program for execution in the micro-controller including instructions and criteria for outputting control signals to a switching mechanism to selectively control voltage and current being applied to an electric resistance igniter , in view of the teaching of **EP000385910B1**. Also, in view of the teaching of **US005660043 (Pfefferle et al)** that "continued controlled heating may be utilized to provide near instantaneous relight", it would have been obvious to a person having ordinary skill

in the art to operate **US003589846 (Place)** in a manner which would permit near instantaneous relight, that is, less than six seconds. Notwithstanding the teaching of place, since the actual warm-up time for a given appliance control application would necessarily depend on numerous design parameters such as the type and amount of fuel burned, the size and type of resistance igniter, the overall size and shape of the burner, etc., to operate **US003589846 (Place)** such that the desired re-ignition time period is about six seconds or less can be viewed as nothing more than merely a matter of choice in design absent the showing of any new or unexpected results produced therefrom over the prior art of record.

## ***Conclusion***

See the attached USPTO form 892 for prior art made of record and not relied upon which is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

## USPTO CUSTOMER COPNTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARL D. PRICE whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on (571) 272-4828. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CARL D. PRICE
Primary Examiner
Art Unit 3749

cp

| Notice of References Cited | Application/Control No. 10/700,339 | Applicant(s)/Patent Under Reexamination CHODACKI ET AL. | |
|---|---|---|---|
| | Examiner CARL D. PRICE | Art Unit 3749 | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Name | Classification |
|---|---|---|---|---|---|
| * | A | US-5,660,043 A | 08-1997 | Pfefferle et al. | 60/723 |
| * | B | US-5,899,684 A | 05-1999 | McCoy et al. | 431/79 |
| | C | US- | | | |
| | D | US- | | | |
| | E | US- | | | |
| | F | US- | | | |
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**FOREIGN PATENT DOCUMENTS**

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**NON-PATENT DOCUMENTS**

| * | | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
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| | U | |
| | V | |
| | W | |
| | X | |

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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